

CLAIMS:

1. Method of changing the size of presentation of an image data stream provided in an image data format comprising the steps of:
 - a) obtaining an image data stream (X) coded in a format and having a first original field of view to be presented in, (step 36),
 - 5 b) selecting at least parts of the image data stream (X_O , X_S), (steps 40, 42),
 - c) obtaining, from selected image data (X_S), values of pixel regions from an area (28) larger than the original field of view, (step 46), and
 - d) changing the field of view by calculating an image to be displayed conforming to a second field of view based on the obtained data and values, (step 48), such
10 that image data (X') comprises pixel values substantially covering the second field of view.
2. Method according to claim 1, wherein objects of the image data stream are provided as pixels in different layers, where the pixel regions outside the first field of view are provided in at least one layer and the step of changing the field of view comprises
15 combining objects of at least some of the layers of the decoded image data stream including said one layer, (step 48), for providing an output data stream allowing presentation of image data.
3. Method according to claim 1, further comprising the step of
20 e) displaying at least some of the image data in the stream on a display with the second field of view, (step 52).
4. Method according to claim 1, wherein the coded stream is an MPEG-4 image data stream and at least some of the pixel regions that are at least partially outside the original
25 field of view are coded as a sprite (X_S).
5. Method according to claim 1, further comprising the step of
f) processing the selected image data regarding mapping of less satisfactory positions of pixels in the second field of view.

6. Method according to claim 5, wherein the step of processing comprises any of the steps of stretching the image in one direction, stretching the image in one direction with uneven zoom factor, stretching the image in two directions or providing black bars at the sides of the image.
7. Method according to claim 5, wherein the step of processing comprises cutting and pasting older picture material to later picture material if no or insufficient pixel regions outside the original field of view are at hand for provision in the second field of view.
8. Method according to claim 5, wherein the step of processing comprises applying a geometrical image transformation for at least a region of the image outside the original field of view where there are pixels missing for the second field of view.
9. Method according to claim 8, wherein the geometrical image transformation comprises filling the missing pixels using extrapolation of existing pixels.
10. Method according to claim 8, wherein the geometrical image transformation comprises copying border pixels for filling missing pixels.
11. Method according to claim 5, wherein the step of processing comprises shifting at least a region of the pixels of one layer in relation to the pixels of at least one other layer in order to allow the objects of said one layer to be adjusted in relation to objects of said other layer.
12. Method according to claim 1, wherein the first field of view corresponds to an aspect ratio of 4:3 and the second field of view corresponds to an aspect ratio of 16:9.
13. Method according to claim 2, wherein the values of pixel regions outside the first field of view are provided in at least one different output data stream (X'_{s2} , X'_{s3} , X'_{s4}) than the stream (X') including the combined objects.
14. Image processing device (12) for changing the size of presentation of an image data stream (X) provided in an image data format and comprising:

- at least one image decoding unit (22) arranged to:
 - select at least parts of an image data stream (X_O , X_S) having a first original field of view to be presented in, and
 - obtain values of pixel regions from an area (28) larger than the original field of view from the selected image data (X_S),
- wherein the image processing device is arranged to change the field of view by calculating an image to be displayed conforming to a second field of view based on the obtained data and values, such that the image data (X') comprises pixel values substantially covering the second field of view.

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15. Image processing device according to claim 14, wherein objects of the image data stream are provided as pixels in different layers, where pixel regions outside the first field of view (28) are provided in at least one layer and an image providing unit (26) is arranged to combine objects of at least some of the layers of the decoded image data stream including said one layer for providing an output data stream allowing presentation of image data.

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16. Image processing device according to claim 14, wherein the coded stream is an MPEG-4 image data stream and at least some of the pixel regions that are at least partially outside the original field of view are coded as a sprite (X_S).

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17. Image processing device according to claim 14, further comprising an image extending unit (27) arranged to process the selected image data regarding mapping of less satisfactory positions of pixels in the second field of view.

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18. Image processing device according to claim 17, wherein the processing comprises any of the measures stretching the image in one direction, stretching the image in one direction with uneven zoom factor, stretching the image in two directions or providing black bars at the sides of the image.

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19. Image processing device according to claim 17, wherein the processing comprises cutting and pasting older picture material to later picture material if no or insufficient pixel regions outside the original field of view is at hand for provision in the second field of view.

20. Image processing device according to claim 17, wherein the processing comprises applying a geometrical image transformation for at least a region of the image outside the original field of view where there are pixels missing for the second field of view.

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21. Image processing device according to claim 20, wherein the geometrical image transformation comprises filling the missing pixels using extrapolation of existing pixels.

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22. Image processing device according to claim 20, wherein the geometrical image transformation comprises copying border pixels for filling missing pixels.

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23. Image processing device according to claim 17, wherein the processing comprises shifting at least a region of the pixels of one layer in relation to the pixels of at least one other layer in order to allow the objects of said one layer to be adjusted in relation to objects of said other layer.

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24. Image processing device according to claim 14, wherein the first field of view corresponds to an aspect ratio of 4:3 and the second field of view corresponds to an aspect ratio of 16:9.

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25. Image processing device according to claim 14, wherein the values of pixel regions outside the first field of view are provided in at least one different output data stream (X'_{s2} , X'_{s3} , X'_{s4}) than the stream (X') including the combined objects.

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26. Image display device (10) for changing the size of presentation of an image data stream (X) provided in an image data format and comprising:

- a display unit (16), and
- an image processing device (12) comprising:
 - at least one image decoding unit (22) arranged to:

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select at least parts of an image data stream (X_o , X_s) having a first original field of view to be presented in, and

- obtain values of pixel regions from an area (28) larger than the original field of view from the decoded image data (X_s),

wherein the image processing device is arranged to change the field of view based on the obtained data and values, such that image data that is intended to be presented in the first field of view can be displayed in the second field of view.

- 5 27. Computer program product (54) to be used on a computer for changing the size of presentation of an image data stream (X) provided in an image data format and comprising computer program code for making the computer execute, when said code is loaded into the computer:
- obtain an image data stream (X) having a first original field of view to be
 - 10 presented in, select at least parts of the image data stream (X_O , X_S),
 - obtain, from selected image data (X_S), values of pixel regions from an area (28) larger than the original field of view, and
 - change the field of view by calculating an image to be displayed conforming to a second field of view based on the obtained data and values, such that image data (X')
 - 15 that is intended to be presented in the first field of view can be displayed in the second field of view.